

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Abad *et al.*  
Appl. No.: 10/606,320  
Filed: June 25, 2003  
For: GENES ENCODING PROTEINS WITH PESTICIDAL ACTIVITY

Confirmation No.: Not yet assigned  
Art Unit: Not yet assigned  
Examiner: Not yet assigned

August 12, 2003

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450


INFORMATION DISCLOSURE STATEMENT  
CITATION UNDER 37 C.F.R. § 1.97

Sir:

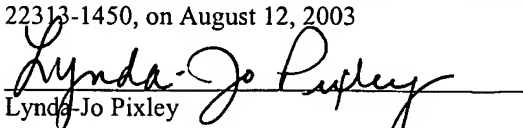
Attached is a list of documents on form PTO-1449 together with a copy of each identified document.

It is requested that the Examiner consider these documents and officially make them of record in accordance with the provisions of 37 C.F.R. § 1.97 and Section 609 of the MPEP. By submitting the listed documents, Applicant in no way makes any admission as to the prior art status of the listed documents, but is instead submitting the listed documents for the sake of full disclosure.

Respectfully submitted,



Leigh W. Thorne  
Registration No. 47,992

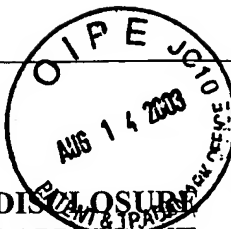
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<b>CUSTOMER NO. 29122</b> <b>ALSTON &amp; BIRD LLP</b> Bank of America Plaza 101 South Tryon Street, Suite 4000 Charlotte, NC 28280-4000 Tel Raleigh Office (919) 862-2200 Fax Raleigh Office (919) 862-2260	I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on August 12, 2003  Lynda-Jo Pixley

Substitute for form 1449A/PTO  
(Revised 10/2001)

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

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**C mplete if Known**

Application Number 10/606,320  
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Examiner Name Not yet assigned  
Attorney Docket Number 35718/263948

**U. S. PATENT DOCUMENTS**

Examiner Initials*	Cite No.	Document Number Number - Kind Code (if known)	Publication Date MM-DD-YYYY	Name of Patentee of Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages of Relevant Figures Appear
	1	US-6,313,378	11-06-2001	Monsanto Technology LLC	
	2	US-5,849,870	12-15-1998	Novartis Finance Corp.	
	3	US-6,023,013	02-08-2000	Monsanto Co.; Ecogen, Inc.	
	4	US-6,063,597	05-16-2000	Monsanto Co.	
	5	US-6,077,824	06-20-2000	Ecogen, Inc.	
	6	US-6,060,594	05-09-2000	Ecogen, Inc.; Monsanto Co.	
	7	US-5,659,123	08-19-1997	Plant Genetic Systems	
	8	US-5,554,534	09-10-1996	Michaels <i>et al.</i>	

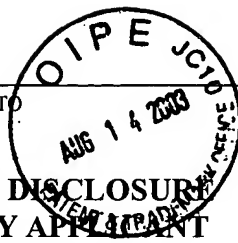
**FOREIGN PATENT DOCUMENTS**

Examiner Initials	Cite No.	Foreign Patent Document Country Code - Number Kind Code (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T
	9	WO 96/10083 (PCT/EP95/03826)	04-04-1996	Ciba-Geigy AG		
	10	WO 99/31248 (PCT/US98/26852)	06-24-1999	Ecogen, Inc.		
	11	WO 93/15206	08-05-1993	Mycogen Corporation		

Examiner  
Signature

Date  
Considered

\*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



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(Use as many sheets as necessary)

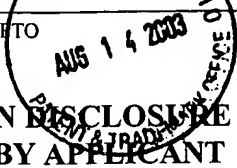
Sheet 2 of 3

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Attorney Docket Number	35718/263948

## **OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS**

Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T
	12	Alves, L.C., <i>et al.</i> , "S <sub>1</sub> Subsite Specificity of a Recombinant Cysteine Proteinase, CPB, of <i>Leishmania mexicana</i> Compared with Cruzain, Human Cathepsin L and Papain Using Substrates Containing Non-Natural Basic Amino Acids," <i>Eur. J. Biochem.</i> , 2001, pp. 1206-1212.	
	13	Angsuthanasombat, C., <i>et al.</i> , "Effects on Toxicity of Eliminating a Cleavage Site in a Predicted Interhelical Loop in <i>Bacillus thuringiensis</i> CryIVB $\delta$ -Endotoxin," <i>FEMS Microbiology Letters</i> , 1993, pp. 255-262, Vol. 111, Elsevier Science, UK.	
	14	Aronson, A., and Shai, Y., "Why <i>Bacillus thuringiensis</i> Insecticidal Toxins are so Effective: Unique Features of Their Mode of Action," <i>FEMS Microbiology Letters</i> , 2001, pp. 1-8, Vol. 195, Elsevier Science, UK.	
	15	Bravo <i>et al.</i> , "Characterization of <i>cry</i> Genes in a Mexican <i>Bacillus thuringiensis</i> Strain Collection," <i>Applied and Environmental Microbiology</i> , 1998, pp. 4965-4972, Vol. 64(12).	
	16	Carlini, C.R. <i>et al.</i> , "Biological Effects of Canatoxin, a Plant Toxic Protein, in Different Insect Models. Evidence for a Proteolytic Activation of the Toxin by Insect Cathepsin-Like Enzymes," <i>J. Econ. Entomol.</i> , 1997, pp. 340-348, Vol. 90.	
	17	Carroll, J., <i>et al.</i> , "Intramolecular Proteolytic Cleavage of <i>Bacillus thuringiensis</i> Cry3A $\delta$ -Endotoxin May Facilitate its Coleopteran Toxicity," <i>Journal of Invertebrate Pathology</i> , 1997, pp. 41-49, Vol. 70, Academic Press.	
	18	Chen, X., <i>et al.</i> , "Mutations in Domain I of <i>Bacillus thuringiensis</i> $\delta$ -Endotoxin CryIAb Reduce the Irreversible Binding of Toxin in <i>Manduca sexta</i> Brush Border Membrane Vesicles," <i>Journal of Biological Chemistry</i> , 1995, pp. 6412-6419, Vol. 270(11), USA.	
	19	Gazit, E., <i>et al.</i> , "The Structure and Organization Within the Membrane of the Helices Composing the Pore-Forming Domain of <i>Bacillus thuringiensis</i> $\delta$ -Endotoxin are Consistent with an "Umbrella-Like" Structure of the Pore," <i>Proc. Natl. Acad. Sci USA</i> , 1998, pp. 12289-12294, Vol. 95.	
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	21	Lambert, B., <i>et al.</i> , "A <i>Bacillus thuringiensis</i> Insecticidal Crystal Protein with a High Activity against Members of the Family Noctuidae," 1996, <i>App. Env. Microbiol.</i> 62: 80-86.	
	22	Li, J., <i>et al.</i> , "Crystal Structure of Insecticidal $\delta$ -Endotoxin from <i>Bacillus thuringiensis</i> at 2.5 Å Resolution," <i>Nature</i> , 1991, pp. 815-821, Vol. 353.	
	23	Masson, L., <i>et al.</i> , "Helix 4 of the <i>Bacillus thuringiensis</i> CryIAa Toxin Lines the Lumen of the Ion Channel," <i>Journal of Biological Chemistry</i> , 1999, pp. 31996-32000, Vol. 274(45).	
	24	Melo, R.L., <i>et al.</i> , "Synthesis and Hydrolysis by Cysteine and Serine Proteases of Short Internally Quenched Fluorogenic Peptides," <i>Analytical Biochemistry</i> , 2001, pp. 71-77, Vol. 23.	
	25	Naidu <i>et al.</i> , "Screening of <i>Bacillus thuringiensis</i> Serotypes by Polymerase Chain Reaction (PCR) for Insecticidal Crystal Genes Toxic Against Coffee Berry Borer," <i>Indian Journal of Experimental Biology</i> , 2001, pp. 148-154, Vol. 39.	
	26	Narva <i>et al.</i> , "Novel Coleopteran-Active Toxins from <i>Bacillus thuringiensis</i> ," 1993, XP-002218453.	
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Substitute for form 1449B/ITO (Revised 10/2001)				Complete if Known	
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Sheet	3	of	3	Attorney Docket Number 35718/263948	
	28	Oppert, B., "Protease Interactions with <i>Bacillus thuringiensis</i> Insecticidal Toxins," <i>Arch. Insect Biochem. Physiol.</i> 1999, pp. 1-12, Vol. 42, Wiley-Liss, Inc., USA.			
	29	Purcell, J.P., <i>et al.</i> , "Examination of Midgut Luminal Proteinase Activities in Six Economically Important Insects," <i>Insect Biochem. Molec. Biol.</i> , 1992, pp. 41-47, Vol. 22(1).			
	30	Schwartz, J., <i>et al.</i> , "Restriction of Intramolecular Movements Within the Cry1Aa Toxin Molecule of <i>Bacillus thuringiensis</i> Through Disulfide Bond Engineering," <i>FEBS Letters</i> , 1997, pp. 397-402, Vol. 410.			
	31	Shiba, H., <i>et al.</i> , "Involvement of Cathepsin B- and L-Like Proteinases in Silk Gland H istolysis During Metamorphosis of <i>Bombyx mori</i> ," <i>Archives of Biochemistry and Biophysics</i> , 2001, pp. 28-34, Vol. 390(1).			
	32	SUN <i>et al.</i> , "Recent Developments in the Biotechnology of <i>Bacillus thuringiensis</i> ," <i>Biotechnology Advances</i> , 2000, pp. 143-145, Vol. 18(2).			
	33	Wu, D. and Aronson, A., "Localized Mutagenesis Defines Regions of the <i>Bacillus thuringiensis</i> $\delta$ -Endotoxin Involved in Toxicity and Specificity," <i>Journal of Biological Chemistry</i> , 1992, pp. 2311-2317, Vol. 267(4).			
	34	Wu, S., <i>et al.</i> , "Enhanced Toxicity of <i>Bacillus thuringiensis</i> Cry3A $\delta$ -Endotoxin in Coleopterans By Mutagenesis in a Receptor Binding Loop," <i>FEBS Letters</i> , 2000, pp. 227-232, Vol. 473.			
Examiner Signature				Date Considered	

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